



THERE'S A

BOMB

IN YOUR BARNYARD



**CHILDREN UNDERSTAND—
AND ACT!**

Out in Oklahoma a Harvester dealer named Will H. Ford got word to the rural schools that Uncle Sam needs scrap metal now. Today in Will Ford's county 8,000 school children in 57 schools are busy as beavers. In the first three weeks they have dug up 647 TONS of "scrap to slap the Japs." Enough from one county to build a fleet of 36 medium tanks!

Champion "scraper" of the primary department at Velma School is eight-year-old Wanda Ely who hunted up 352 pounds of old metal, "all by herself," and brought it to school in her arms.



**"SEND THIS SCRAP
TO THE JAPS—
WITH POWDER BEHIND IT!"**

With these explosive words to an International Harvester dealer, Ira Gould, 80-year-old farmer of Bone Gap, Illinois, sent his scrap metal off to war. If every farmer in the United States will follow Mr. Gould's patriotic example and get rid of his scrap at once, this country will take a tremendous stride toward winning the war.

IT'S A DUD, NOW. Just a pile of junk. It's YOUR SCRAP METAL! Rusting away and no earthly good to you or to the courageous men fighting this war. They need it. Their lives depend on it. Your lives depend on it. Let Uncle Sam load this bomb for you!

Scrap metal makes munitions. A one-ton bomb requires 500 pounds of it. A 75-mm. howitzer takes half a ton. And the mills are not getting enough scrap metal to maintain the steel production demanded by war industry.

By far the biggest pile of scrap metal left in America is on farms. Three million tons of it or more. And it's going to take every pound of this scrap to win this war. That's why it's up to you to collect all your scrap and get it moving before you do anything else. It may take a day or two of your time, but until it's done, there is nothing you can possibly do that's more important.

The Harvester Dealer Will Help You

Because this job is big, and scrap is tough to handle, International Harvester, in cooperation with the Government, has asked every one of its dealers to lend a hand. And they are doing an immense salv-

age job. In towns where there is no junk yard, Harvester dealers have set up collection points. They are accumulating piles of scrap from farms—selling these piles to scrap dealers—and turning the entire proceeds back to the farmers who bring in the scrap. Harvester dealers are not taking a penny of pay for their part in the transaction.

In other towns where there are junk yards, Harvester dealers organize drives to get metal moving directly from farms to scrap dealers where it can be broken down, sorted, and segregated for the mills.

In all this work these men have only one goal—to get all the scrap metal from all the farms moving to the mills. The pictures show some of the ways they are getting this job done.

Get your own scrap together now. Comb your attic, fields and fence corners for old metal. Be sure that it's all scrap and contains no valuable parts or equipment you may need later. Then call on your Harvester dealer for advice on the best way to send it off to be loaded for war!

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue Chicago, Illinois



WHEN EVERYBODY WORKS YOU CAN BUILD A SCRAP IRON MOUNTAIN!

Down in Missouri, ninety-seven farmers have been hard at it at the urgent request of Harvester dealer George J. Seeger, of Creve Coeur. In one big day they loaded all the scrap they could find and brought it to town. It was weighed at a local elevator and George Seeger gave each

man a receipt for his tonnage. As the junk from this 190-ton pile is sold to scrap dealers—at prices far above what it would bring on the farms—all proceeds are turned back to the men who brought it in. Many take payment in War Savings Stamps and Bonds.



RECEIPTS—GOOD FOR CASH

When Harvester dealers set up scrap depots, they give farmers receipts for every pound of metal brought in. When the scrap is sold, these receipts are redeemed in full in cash or War Savings Stamps. Dealers charge no commission.

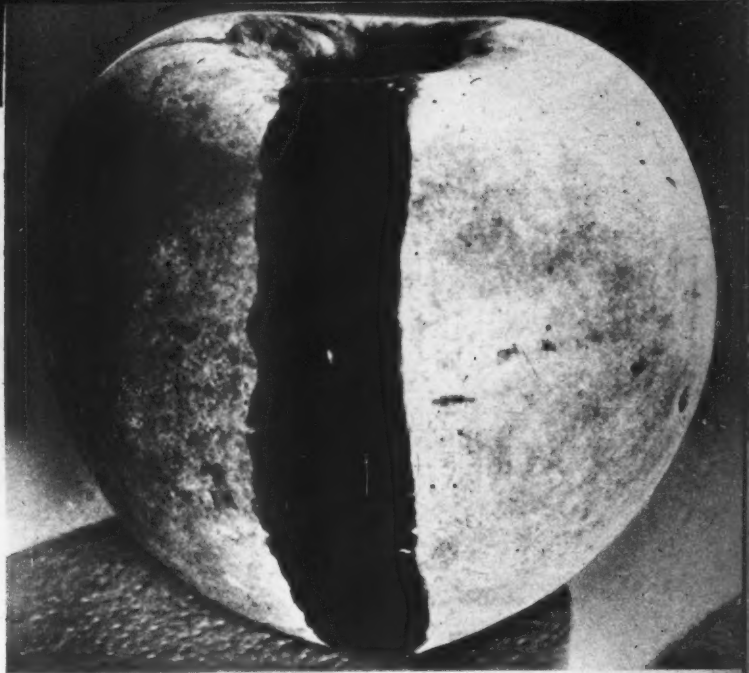
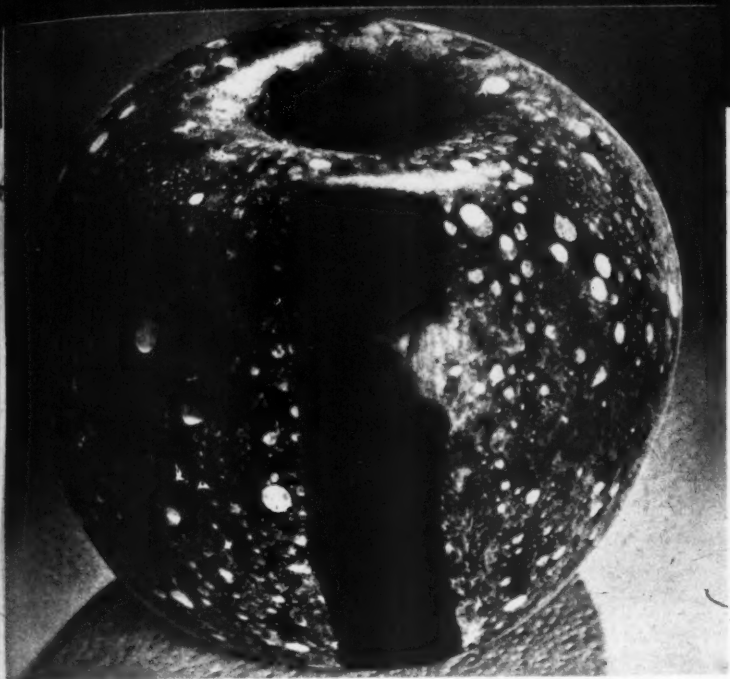


**PRIZE MONEY—
FOR BOYS AND GIRLS**

To stir up enthusiasm and get everybody working, Harvester dealers in various places offer prizes to the 4-H Club member or Future Farmer who gets in the biggest load of scrap during a drive.

INTERNATIONAL HARVESTER

YOU BE THE JUDGE!



The Apples Pictured Above, Sprayed with Identical Doses!

SEE THE DIFFERENCE

The apple on the left has been sprayed with Arsenate of Lead combined with an ordinary spreader—80-85% of the ordinary Arsenate of Lead was lost in the run-off leaving a blotchy deposit which is not uniform enough to control codling moth larvae.

The apple on the right has been sprayed with a mixture of Sherwin-Williams Spralastic and Arsenate of Lead. You can see for yourself the heavy uniform coating which insures maximum protection against codling moth larvae.

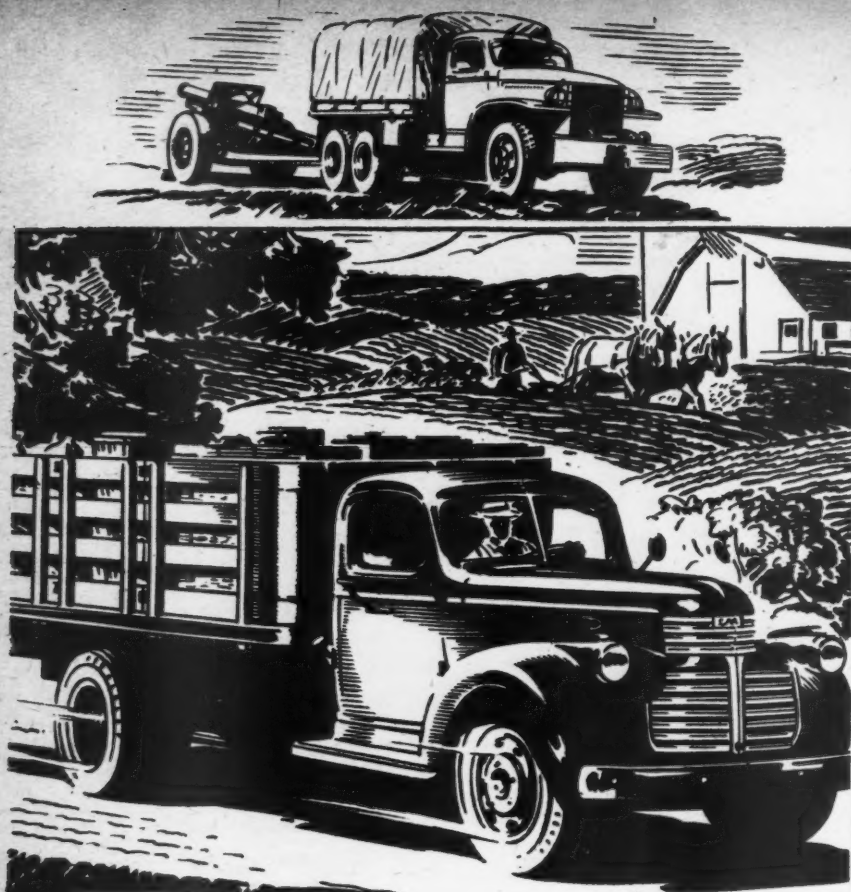
SHERWIN-WILLIAMS SPRALASTIC DOUBLES THE EFFICIENCY OF ARSENATE OF LEAD SPRAYS BY INCREASING THE DEPOSIT AND PRODUCES A HEAVY UNIFORM COATING AFFORDING EFFECTIVE CONTROL OF CODLING MOTH

**HERE'S
WHY**

There is no over supply of Arsenate of Lead; therefore, get the most out of your Arsenate of Lead sprays against codling moth by using Sherwin-Williams Spralastic, the most efficient deposit builder, spreader and flocculator that you can buy. Write us for a folder containing complete details and send us the name of your nearest dealer.



THE SHERWIN-WILLIAMS Co.



**KEEP YOUR TRUCK
PULLING FOR
VICTORY, TOO!**

Thousands of GMC military trucks are *pulling* for victory with America's armed forces. And GMC farm trucks are doing an equally important job transporting the food and farm products so vital to our all-out war effort. Your GMC dealer's "Victory Maintenance" program will aid you in getting maximum performance and longer life from your truck, at minimum expense. "Victory Maintenance" is a complete service plan for all make trucks. It includes preventive maintenance check-ups, special time and money saving repair combinations, and replacement with re-manufactured GMC engines. Let GMC "Victory Maintenance" help to keep *your* truck *pulling* for victory.

Special "Service Payment Plan" available through our own YMAC

THE TRUCK OF VALUE
GMC TRUCKS

GASOLINE-DIESEL

AMERICAN FRUIT GROWER

Get in the SCRAP

America's war industries need

**METALS
PAPER
OLD RAGS
RUBBER**

Get it back in war production

Here is the poster that calls for recruits to the scrap metal campaign which is now being waged on the farms of the country, including fruit farms.

**"GET IN THE SCRAP"
MR. FRUIT GROWER**

THERE IS ENOUGH scrap iron rusting on American farms to build 139 modern, 35,000-ton battleships or 156,250 light tanks, or 50 million, 50-calibre machine guns. If this scrap iron were made into 2,000-pound aerial bombs, it would make 5 million of them—enough to drop 3 a minute incessantly from our Flying Fortresses for over 3 years.

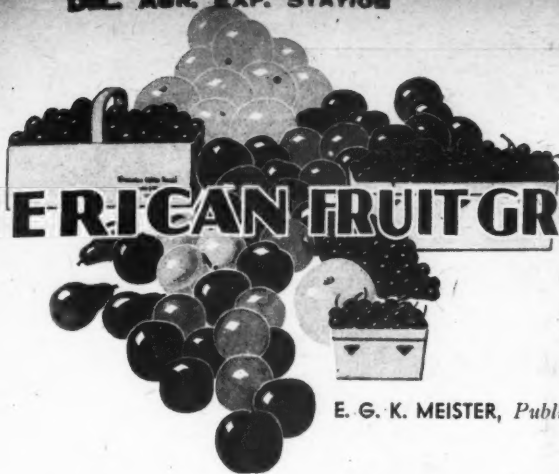
That's why the salvage campaign, sponsored by the Bureau of Industrial Conservation, War Production Board, is receiving nation-wide co-operation.

The International Harvester Company has developed an ingenious plan to speed this scrap iron from the farm to war industries. Every Harvester dealer has been urged to organize a farm salvage program in his territory. Children work for their Uncle Sam by helping to clean up the farms and are rewarded with War Savings Stamps. The farmer is encouraged never to go to town with an empty truck but to load it with scrap instead. Salvage depots are established where the scrap can be deposited and made ready for grading and sorting. Books are kept and when there is a salable quantity, a scrap dealer is called in and each contributor receives credit for the amount he has collected. Many take their share in War Savings Stamps and Bonds.

Allis-Chalmers Tractor Division is also "Getting in the Scrap" by urging the farmer not to be a "Scare buyer or hoarder, to weld and repair the old, lend to your neighbor, and sell the discarded scrap iron."

(Continued on page 20)

AMERICAN FRUIT GROWER



E. G. K. MEISTER, Publisher

BEWARE "WOLVES IN SHEEP'S CLOTHING"

Fruit growers should get their guard up and quickly against the soft spoken arguments of agents who are out to entice farmers into an union, under the domination of John L. Lewis's United Mine Workers of America.

The warning, "Beware of wolves in sheep's clothing," comes none too soon. Already, fearful that John L. Lewis's campaign to organize dairy farmers will create civil war in the New York milkshed, the most powerful farm organizations in New York, New Jersey, Pennsylvania and Vermont have formed a coalition to fight the Lewis drive and to safeguard their members against every financial loss that might be sustained through the burning of barns, the poisoning of cows or other forms of vandalism by union agents.

The anti-Lewis offensive is being carried on through the medium of a nonprofit membership corporation called "Free Farmers, Inc." It proceeds on the theory that Mr. Lewis is seeking to obtain control of the nation's food supply as a means of elevating himself to dictatorial power, and it pledges its members to "fight to the end" against all attempts to bring farmers or the marketing of farm products under the domination of Mr. Lewis.

In return for a written promise that each member will go to the aid of any fellow-farmer "whenever he is threatened," the new organization undertakes to pay its members up to \$10,000 for damage caused to their farms by "strike, riot, civil commotion or malicious damage."

The formation of Free Farmers, Inc., with fruit, vegetable and poultry growers joining dairy farmers in its membership, provides new evidence of the determination of farm associations throughout the nation to resist the Lewis invasion of the farm field.

In Michigan, where the Lewis farm move got its start, the U.M.W. representatives have had something more than resolutions and press statements to contend with. In at least one community they have been ordered out of town by some of the farmers they were seeking to sign up and in others they have found it impossible to hire a meeting hall. One Lewis organizer found his gasoline tank filled with sand and another the motor fan in his automobile twisted into a knot.

The principal reason for the establishment of Free Farmers, Inc., is the belief on the part of its founders that Mr. Lewis is not actuated by any desire to improve the lot of the farmers but solely by a desire to use them as a stepping-stone in the promotion of his own political ambitions.

The organizations represented in the group are the State Granges of New York, New Jersey and Pennsylvania, the Farm Bureau Federations of New York and New Jersey, the Eastern State Farmers Exchange, the Dairymen's League, the Grange League Federation, the New York State Home Bureau Federation and the New York State Conference Board of Farm Organizations. Herbert W. Voorhees, president of the New Jersey Farm Bureau Federation, is president of Free Farmers, Inc., and William J. Rich, master of the New York State Grange, vice president.

Many fruit growers have already had a taste of union methods in the matter of trucking and unloading fruit. Now we sincerely urge all growers to keep a wary eye out for the glib talking union agent and be ready with an emphatic "No" when he tries to "sign them up" and thereby sign their freedom away.

NAILS ASSURED FRUIT INDUSTRY

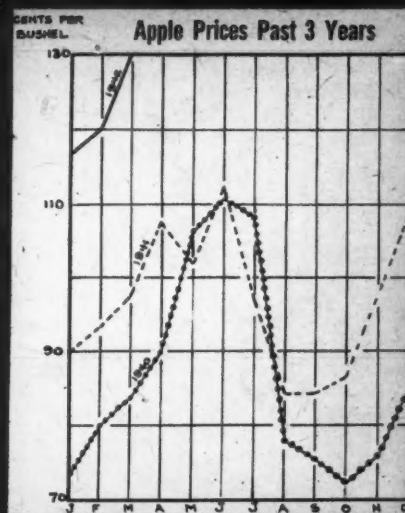
YOU remember, of course, the old verse about, "For want of a nail, the horse shoe was lost," etc., etc., until it wound up by telling how the battle was lost—all for the want of a nail. Fruit growers faced a somewhat similar situation recently when a shortage of nails for fruit boxes threatened. Then Truman Nold, Executive Secretary of the National Apple Institute went into action in Washington, and now the fruit industry will get nails.

The War Production Board has ordered the production of necessary supplies of nails, including fruit box types, in telegrams rushed to the nail manufacturers. The nail mills are to notify their warehouses and distributors that their nail needs are to be forthcoming, and these in turn are to notify the dealers. This will enable dealers to accept orders from growers in the usual manner of doing business. The ordinary grower will not have to file any application, or go through any other red tape, except that possibly some simple check against over-buying will be required.

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MAY, 1942

AMERICAN FRUIT GROWER



"MY COUNTRY 'TIS OF THEE"

AN EMBARGO to prevent the movement of all commercial export freight to all Atlantic, Gulf and Pacific ports except when a permit has been obtained showing that ship space is available for such freight, has been issued by the Car Service Division of the Association of American Railroads. The purpose of the embargo is to prevent freight from accumulating at various ports. This embargo, however, does not affect Army, Navy or Lend-Lease freight. It also does not affect freight shipments to those ports other than for export.

DR. V. R. GARDNER, director of the Michigan Agricultural experiment station, has taken steps to satisfy the demands of the Michigan State Apple Commission for additional scientific data to be used in apple advertising. He has requested Dr. Thelma Porter, research associate in foods and nutrition at Michigan State College, to recommend a research program to prove the nutritional value of apples. She has indicated she will probably recommend studies to determine the relation of organic acids in apples, especially malic acid, to general health, the physiological effects of organic acids on the body, the relation of pectins to absorption of essential nutrients in the body, the value and services of uronic acids in apples, and the nutritive value of dried and processed apples.

POSSIBILITY that fertilizers may be rationed to crop growers was recently forecast at a meeting of representatives of the fertilizer industry with officials of the experimental station and the state extension service at College Park, Maryland.

C. J. Bland, executive secretary of the National Fertilizer Association, advised growers to exercise care in planting, since "there may be an equitable distribution" of fertilizer.

PAGE 3



A Camera Story of A HAIL DAMAGED APPLE

By G. L. BOOKER

EVERY year, hail storms destroy fruit crops and do costly damage to thousands upon thousands of bushels of fruit that must be relegated to cull grades. No one knows just when or where hail will strike, but no section of the country is immune. If you can't remember your last hail storm, you will never forget your next one . . . and your next one may come any day. Will you be sorry, or will you be foresighted and insured. Study the pictures of a hail damaged apple on this page. They tell a graphic story of hail's havoc.

1 Apple photographed June 15th. One large hail peck partly covered a large hail dent; 2 small pecks with broken skin and 4 tiny dents that caused discoloration.

2 Apple photographed June 23rd. At this time 8 injuries from hail are in evidence and 7 have broken skin. Large injury now well healed with scar tissue thick over wound.

3 Apple photographed July 28th. Little change from previous photograph except the injured areas are much larger and deeper

and there is a heavy accumulation of scar tissue on the wounds on the apple surface.

4 Apple photographed August 25th. The main change from previous photograph is the increased size of the apple and a corresponding increase in size of hail punctures.

5 Apple photographed September 16th. All original hail marks can be identified though less prominent now as increased color and size help obscure smaller punctures.



ORCHARD DEFENSE



Left—Frank Chatten, owner of most profitable orchards, knows that a complete schedule of even nicotine-oil sprays is inexpensive when the final returns of clean fruit are counted.

Lower left—W. L. Ringhausen of Fieldon, Illinois, shows some of the quality clean apple crop which resulted in high profits last year for him and his brother, Bert.

Below—Pitts Brothers of Lincoln, Arkansas, produced a fine crop of fruit in one of the worst codling moth sections of the country during 1941, using strong spray measures.



SPRAY COSTS AND PROFITS

By C. R. Cleveland, Entomologist

IN THESE DAYS, perhaps as never before, the American fruit grower is faced with the necessity of making a fundamental decision in regard to the policy he is going to adopt concerning insect and disease control. The question is this: "Can I afford to go 'all out' for defense of my orchard against the destructive attacks of these persistent enemies, no matter what it must cost to insure victory?"

As a nation, the American people, in a larger but parallel sense, have had to make a similar decision. There is no question as to what it had to be. Regardless of how great the cost must be to insure the preservation of our national existence, we know the eventual cost of defeat will be many times greater than the cost of victory. There is no hesitation in accepting the lesser of the two evils as our national policy.

Is it sound logic to apply the same principle to the fruit grower's battle against the enemies that continually threaten to rob him of the fruits of his labor and planning?

Throughout the writer's work in the field of fruit insect control research and extension, it has been a frequent experience to see orchard

tests and demonstrations show the necessity of application of more complete spraying methods to insure adequate insect control, and to have growers express the opinion that it would be impractical to follow such methods. While many growers have modified their viewpoints on this question and have come to practice more thorough insect and disease control work, there are still others who cannot believe it economically feasible to shape their spray practice according to the teachings of scientific investigation.

So far as policy in spray practice is concerned, it may be said that there are two schools of opinion—the one that believes the utmost necessary effort to master existing insect and disease conditions is good economy, regardless of initial operational costs, and the one that believes it is necessary to cut corners, skimp on spray material, and reduce numbers of sprays, in order to make money, even though such practices result in heavy losses from pests.

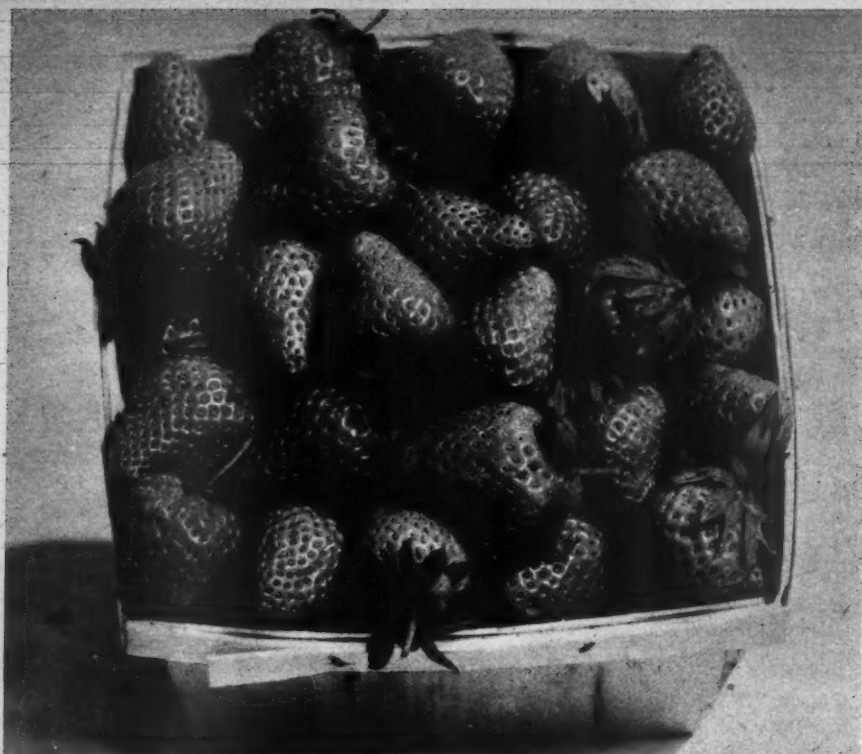
In which of the above groups are found the greater percentage of successful growers? Is it actually true

that the "expensive" sprayers are going broke?

Just from general observation, it had not appeared evident to the writer that the orchard men of his acquaintance who were known to be the best sprayers, and who were obviously putting out the most money for spraying operations, were the ones who showed the greatest financial strain. In fact, it rather seemed that among these growers were more outstanding cases of apparent economic well-being than among the fearful, excessively cost-minded orchardists.

However, general impressions may be misleading. Consequently, a fact-finding survey of a number of representative commercial apple orchards was made, covering significant phases of operations for the 1941 season as related particularly to spraying methods and costs; results in terms of fruit quality produced; and economic results of the season's work.

This study did not prove that in-
(Continued on page 16)



Left—Here is a box of the Tennessee Shipper Strawberries. This variety is a favorite with fruit growers of Tennessee, being very adaptable to the climatic conditions and also being a good commercial variety. This berry is attractive even after long shipments.

SMALL FRUITS •

Tennessee Shipper Strawberry

The Tennessee Shipper Strawberry was originated in 1933 at the Tennessee Agricultural Experiment Station and now, after years of testing and experimenting, it is being recommended for commercial plantings. The Shipper is a cross between the Missionary and the Blakemore strawberries. The fruit resembles the Blakemore in shape. Its smoothness and uniformity are its outstanding characteristics, and it also possesses outstanding carrying qualities under shipping conditions. The Shipper is a light berry, glossy in color and uniform in size.

Cherries

Of the 12 varieties of sweet cherries, recommended as especially worthy of trial by the New York State Fruit Testing Association, three were originated on the grounds of the Experiment Station at Geneva, New York. They are the Sodus, Gil Peck, and Seneca.

Sodus Cherry

The Sodus cherry is a "sister" variety of the Gil Peck cherry, having been obtained from the same cross. However, they are quite different. The Sodus cherry is much lighter than the Gil Peck and is, in fact, rated as one of the best of the light-colored seedlings. It resembles the Victor cherry but ripens a little earlier and is a bit more firm. Its quality is one of the best.

Gil Peck Cherry

The fruits of this cherry variety are large, dark purplish black, and similar in shape to the Giant cherry. It has good quality, is firm fleshed, juicy, sweet, and richly flavored. It is a midseason variety and is favored for both home and commercial production.

Seneca Cherry

This is an early cherry. Its fruits ripen in the first weeks of June. The cherries resemble the Black Tartarian, being round-cordate, purple-black and juicy. They possess a rich, sweet flavor. The pit is free and the skin does not crack. The tree is very vigorous, productive, and has an upright-spreading growth.

Raspberries

Four varieties of raspberries are recommended for commercial planting. The New York State Experiment Station at Geneva, New York, has experimented with all four which now may be obtained from several nurserymen. They are the Newburgh, Taylor, Indian Summer, and Marcy.

Newburgh Red Raspberry

The Newburgh is a cross between Newman and Herbert and ripens three or four days ahead of the Cuthbert. It is regarded as a good commercial variety.

Taylor and Marcy

The Taylor and Marcy have the same parents, the Newman and Lloyd George raspberries. Taylor has especially high quality and is a good producer, hardy and vigorous.

The chief characteristic of the Marcy is its large size in comparison

with the size of other varieties, being the largest of all red raspberries grown at this Station. It is recommended for market purposes.

Indian Summer Raspberry

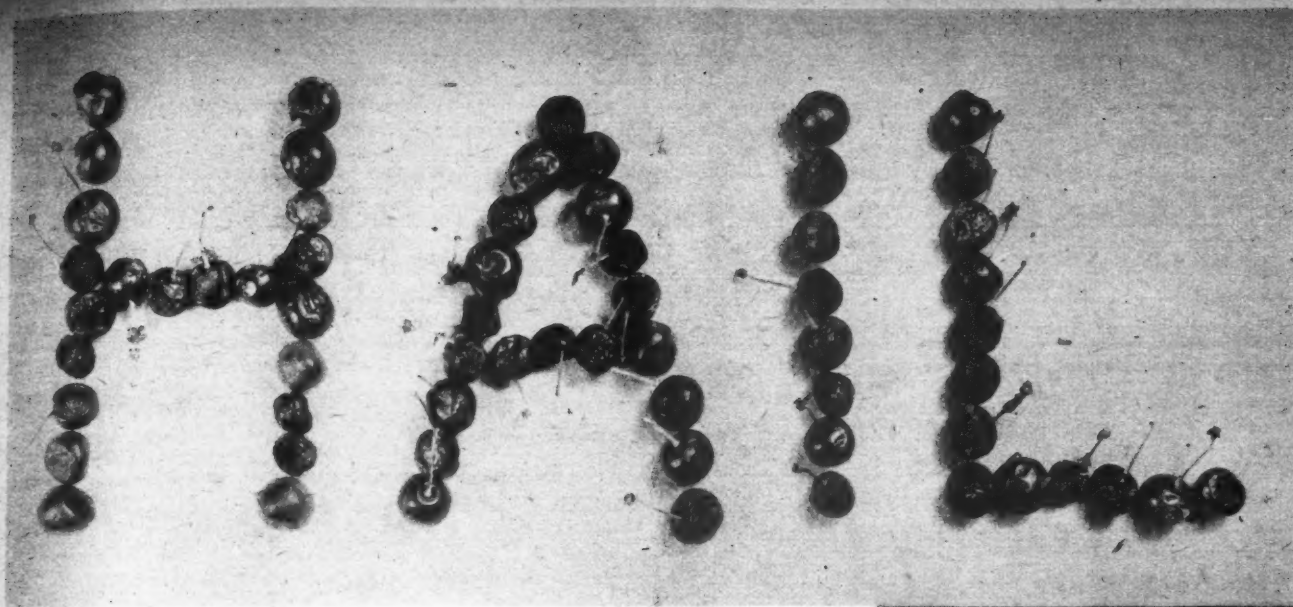
The Indian Summer is also a large fruit, good in quality, with large vigorous plants. It is the first autumn-fruiting variety which the Station has recommended as worthy of further trial. For summer fruiting it is not equal to the common commercial varieties in view of the softness of the berries and their tendency to darken soon after picking.



This is the Indian Summer raspberry. It is a very late variety, the bulk of the crop ripening in New York State in October. It is not recommended widely for commercial use since, if the plants are not grown under favorable conditions, the berries are apt to be small and crumbly.

Little Leaf

"Little leaf" in peaches and sweet cherries is sometimes a serious malady. Prof. C. E. Schuster, O. T. McWhorter and R. E. Stevenson, Corvallis, Oregon, report in the last Proceedings of the American Society for Horticultural Science that, "Two seasons' study indicate that the trees affected with 'little leaf' condition can be restored to normal appearance and growth by spraying with solutions of boric acid and zinc sulphate. More study will be needed to determine whether the recovery is permanent."



Hail damaged cherry fruits spell out their trouble.

TWO ORCHARDISTS DISCUSS HAIL DAMAGE

IT CAUSED PLENTY OF HEADACHES FOR THE GROWER WHO
HAD FIVE ORCHARDS BUT NEVER BOTHERED THE
GROWER WHO OWNED ONE ORCHARD.

As told to JONAS HOWARD

"**Y**OU OWN five orchards?" I said in surprise.

"Five orchards," the grower repeated. "All of them in perfect condition and producing big crops. If one is struck by hail, I won't be hurt much because the other four will carry me through. But what about you? If your crop and trees are ruined by hail, what will you do? You are dependent solely on one orchard."

"Ha, and there you are wrong," I replied. "Better than five orchards, I have tens of thousands of orchards upon which I can rely if my crop is hail struck. In fact, if my crop is completely destroyed, I will receive immediate payment, while you have no way of making up for the loss."

"Tens of thousands are better than five," the grower admitted. "What sort of an agreement have you with all these orchardists?"

"We all pay a certain amount, depending on the size of the orchard, into a common fund each year. And when one of our group suffers losses through hail, like L. R. Frederick at Wadsworth, Ohio, money is taken from the fund to pay him. By co-operating this way we have saved ourselves thousands of dollars."

"For instance, this man Frederick was out mowing the orchard with his tractor about June 10 last year when he suddenly noticed a towering

black cloud. He didn't even have time to drive to his storage before the storm burst and hail came pelting down. It lasted not more than five or 10 minutes, but in that short time 20 per cent of his crop was totally destroyed. He said it would try the courage of any orchardist who takes pride in growing fine fruit to stand in the doorway and see hail ruin his fruit without being able to do anything about it.

"Fortunately, he was a member of the hail insurance group and his losses were made up by immediate cash payment. He says no orchardist can afford to take the risk of losing a crop by hail in these times of high costs and uncertain prices."

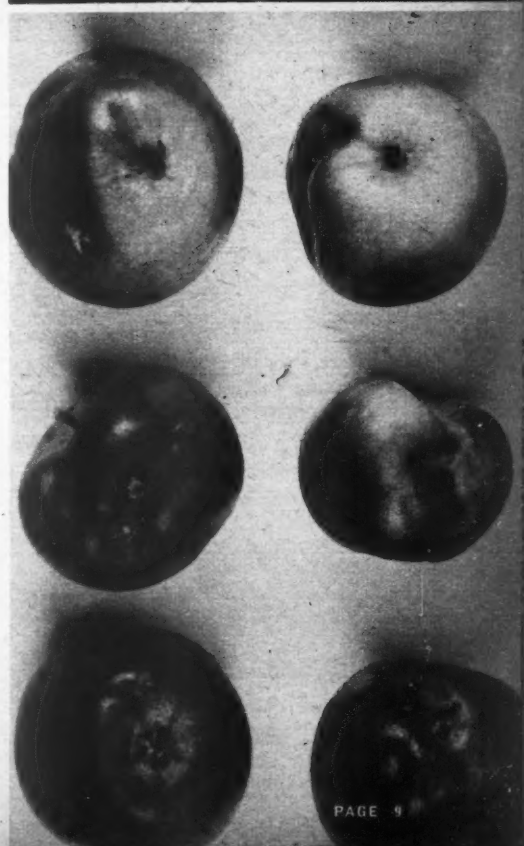
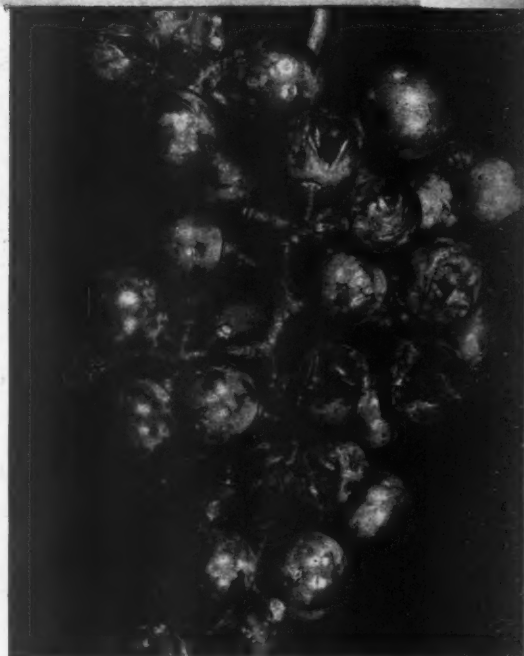
"Hmm," the grower slowly said, "I'll bet you can't tell me of any more who made up losses like that."

"The books are full of them," I answered. "Judge F. S. Tavenner of Woodstock, Va., is another orchardist who benefited from hail insurance. Hail injury was so severe it swept areas of more than 200 acres in his orchards. The Judge was paid \$6,905
(Continued on page 18)

Battered, bruised and broken, this bunch of grapes graphically portrays the destructive effects of hail.

A closeup of misshapen apples, their deformities due to being bombed by hail during an early season storm.

AMERICAN FRUIT GROWER





MARKETING



"HONEY ORCHARDS," A NAME WITH SALES POWER

By ROY JAMES

"HONEY ORCHARDS" roadside market, located 27 miles east of Cincinnati on Route 125, would not seem to be profitably located, considering the many roadside stands between this market and the city, but such a conjecture would be idly made. The market, operated by Hermon E. Fagley, is a sound and thriving investment from which a large portion of apples from a 35-acre orchard and honey from 260 colonies of bees are sold.

From the unpretentious roadside stand of "Honey Orchards" produce has been sold to tourists from practically every state in the Union as well as from Canada and the Canal Zone. Often a letter comes through the mails from one of these distant points, requesting re-orders of honey.

Years ago when Hermon Fagley was a boy, he found ready sale for honey from a few hives by putting a "Honey for Sale" sign on the roadside in front of his father's house. From that start the selling of produce from the farm directly to the consumer has grown into a business which annually brings in to him several thousand dollars.

The biggest volume of Fagley's business is in apples of which there is a succession of varieties. First come the Transparent and Early Red Birds. Then the motorists stop for Wealthy, Maiden Blush, Wolf River, Jonathan, Grimes Golden, Starking, Golden Delicious, Stayman, and Staymared. With such a vast variety of apples in his orchards, Fagley is able to supply roadside customers with apples from the very earliest days of spring to the latest days of fall.

But honey is no stepchild at this busy market. It sells well. It is put up in one and five pound glass containers. Honey of very high quality is packaged in small containers and all packages are attractively labeled. Any off-grade honey is sold at reduced prices.



"Sampling" is often a short cut to a sale at Hermon Fagley's roadside stand where carefully graded apples, honey and fresh cider are attractively displayed. (Below) One of Fagley's large bee yards, where several tons of honey are gathered annually.



Many other items also are sold at the "Honey Orchards" roadside market. Apple cider is a popular standby and is made at a commercial mill twice a week throughout the apple season. No preservative is used and cider that sours is held and sold as vinegar. Surplus garden vegetables, strawberries, potatoes, sweet corn, and tomatoes are sold

and bring in a surprising number of extra dollars.

Motorists are attracted as they approach the market by small billboard signs placed at regular intervals along the highway. Other signs at the market list the products which are offered for sale. Once stopped, the customer is met promptly and

(Continued on page 19)

Right—If this orchard is to remain productive, the fertile surface soil here must be saved from ruinous soil erosion.

Below—There is no loss of surface soil here. Sods and mulches not only save the soil but increase the organic matter.

DURING this period of national emergency it is desirable to obtain maximum production from all the trees in the orchard. Furthermore, the fact that fruit growers will face an increased shortage of labor means that any practice that will conserve or reduce labor should be considered by the orchardist.

Although many weak and unproductive trees as well as entire orchards have been removed during the last five years, many "borderline" plantings still are in existence. Under present conditions it may be well to consider how these trees may be restored to profitable production.

During the course of a study of orchard soil management practices, conducted by the Agricultural Experiment Station of Purdue University over the past thirty years, mulching has proved its value in restoring the vigor of devitalized trees. As these investigations have been limited to clay and loam soils, the results obtained cannot be applied too widely to other kinds of soil, especially the very sandy soils.

These studies indicate that trees that have become weak and unproductive following excessive cultivation or continuous sod culture may be made vigorous and productive by a change of culture that includes the use of a mulch of plant or animal residues. Trees weakened by excessive cultivation of the soil will increase in growth and productivity if they are fertilized with a nitrogen carrier and a grass sod is established in the orchard. The grass checks further loss of the soil by erosion and puts an end to the rapid oxidation of the organic matter in the surface soil and, after a few years, actually builds up the supply of organic matter. In addition, the sod prevents the rapid run-off of rainfall and encourages the penetration of water into the soil where it can be stored for future use by the trees. Trees grown in a grass sod should receive liberal amounts of a nitrogen carrying fertilizer as the trees cannot successfully compete with the grass for the natural nitrogen supply of the soil.

Our studies indicate, however, that the restoration of the trees is more rapid and more effective when, in addition to seeding the area between the trees to grass, a mulch of some suitable material, such as straw or manure, is placed beneath the trees.

(Continued on page 14)



MULCHING

RESTORES PRODUCTIVITY OF DEVITALIZED APPLE TREES

CLARENCE E. BAKER

Purdue University Agricultural Experiment Station



SPI
FOI



No cost, no obligation, no need to buy anything. A package of 100 seeds, regular price 25c, is yours for the asking.

COME IN AND GET TOURS TODAY



IN THESE CRITICAL TIMES of shortages and restrictions, **BE ALERT to values!** At your nearby Firestone Dealer or Firestone Home and Auto Supply Store is an even wider variety of high-quality merchandise.

For the Home there are gas and electric ranges, washing machines, electrical appliances, radios and phonographs, record albums, hardware, electric irons, ironing boards, step ladders, interior and exterior paints, carpet sweepers, brooms, waxes and polishes.

For the Garden there is a complete line of lawn tools, mowers, lawn and vegetable seeds, fertilizer, rubber hose and sprinklers.

For the Car there is the free Firestone Extra Mileage Plan as well as batteries, spark plugs, brake lining, radiator hose, radios, seat covers, grille guards, driving lights, horns, car cleaning supplies and many other products that will help you get longer service from your car. And for those who secure rationing certificates there is a complete line of tires and tubes.

For Recreation there are portable radios, luggage, bicycles, fishing tackle, croquet sets and other sporting goods.

See the many Spring and Summer suggestions now on sale at your nearby Firestone Dealer or Firestone Home and Auto Supply Store. Convenient budget terms if you prefer.

Some of the products shown or mentioned in this advertisement are sold subject to Government regulation.

**REGISTER YOUR CAR AND TRUCK FOR FREE
TIRE-SAVING, CAR-SAVING, MONEY-SAVING
FIRESTONE *Extra Mileage* PLAN**

Your tires will be examined, inflated to correct pressure and "Safti-Branded" with your initials. Your battery, spark plugs, brakes, lights, wheels and lubrication will be checked. Go to the nearest Firestone Dealer or Firestone Home and Auto Supply Store equipped to give this service and register your car or truck today. Get the free booklets telling how to conserve tires and get longer service from your car, truck and tractor.

Listen to the Voice of Firestone with Richard Crooks, Margaret Speaks and the Firestone Symphony Orchestra, under the direction of Alfred Wallenstein, Monday evenings, over N.B.C. Red Network
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**"WHEN YOU
FOR YOUR
GET THE EX**

For safer
equip now
Firestone E
Firestone E

WAR PRO

Every pl
seven days
gun mount
airplanes,
machine gu
military an
balloons an
army and n

SPRING *and* SUMMER SUGGESTIONS FOR YOUR HOME, GARDEN *and* CAR



"WHEN YOU GET A TIRE RATIONING CERTIFICATE FOR YOUR TRACTOR, TRUCK OR CAR BE SURE TO GET THE **EXTRA VALUES** PROVIDED ONLY BY

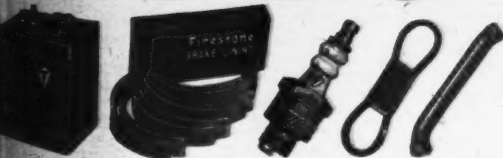
Firestone TIRES"

Says: Mr. Extra Traction

Firestone
Ground Grip
Tires for
Tractors

Firestone
Transport
Tires for
Trucks

Firestone
DeLuxe
Champion
Tires for
Cars



For safer, more economical summer driving, equip now with a new Firestone Battery, Firestone Brake Lining, Firestone Spark Plugs, a Firestone Fan Belt and Firestone Radiator Hose.

WAR PRODUCTION IS FIRST AT FIRESTONE

Every plant is working 24 hours a day — seven days a week — manufacturing anti-aircraft gun mounts and carriages, oxygen cylinders for airplanes, tank tracks, metallic belt links for machine gun cartridges, bullet sealing fuel tanks, military and combat tires, gas masks, barrage balloons and many other products used by the army and navy and their air forces.



NOW ON SALE AT FIRESTONE DEALERS AND FIRESTONE HOME AND AUTO SUPPLY STORES

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Bathroom scales . . . Brooms . . .
Carpet Sweepers . . . Cleaning
materials . . . Clocks, electric . . .
Clothes dryers . . . Coffee makers
... Door chimes . . . Door mats . . .
Dry cleaner . . . Electrical supplies
... Flashlights, batteries and bulbs
... Floor and furniture waxes and
polishes . . . Grills . . . Ironing
boards, pads and covers . . . Irons,
electric . . . Light bulbs . . . Mixers,
electric . . . Mops . . . Paints, interior
and exterior . . . Painting acces-
sories . . . Phonograph records,
albums . . . Radios and phonoradios
... Radio accessories . . . Ranges,
gas and electric . . . Shavers, electric
... Stepladders . . . Toasters . . .
Tools, household . . . Vacuum
cleaners . . . Waffle bakers . . .
Washing machines.

GARDEN SUPPLIES

Fertilizer . . . Garden hose,
sprinklers and fittings . . . Garden

tools . . . Lawn, flower and vegetable
seeds . . . Lawn mowers . . . Work
gloves.

AUTO SUPPLIES

Batteries . . . Brake lining . . .
Cleaning materials . . . Cushions
... Driving gloves . . . Driving
lights . . . Fan belts . . . Grille
guards . . . Horns . . . Oil filter
cartridges . . . Radios . . . Seat
covers . . . Solder and hose . . .
Spark plugs . . . Sun glasses . . .
Tires and tubes . . . Tire repair
materials . . . Tools . . . Windshield
wiper blades.

RECREATION SUPPLIES

Badminton sets . . . Baseballs, bats
and gloves . . . Fishing tackle . . .
Golf supplies . . . Luggage, complete
line . . . Picnic jugs . . . Roller
skates . . . Table tennis sets . . .
Tennis rackets.

BICYCLES

and Accessories . . . Scooters . . .
Velocipedes . . . Wagons.



Ask your nearby
Firestone Dealer or
Firestone Home and
Auto Supply Store for
a complimentary
copy of the new
Spring and Summer
catalog.

CHERRY LEAF SPOT "Licked" with COPPER HYDRO

"INSOLUBLE" COPPER FUNGICIDE

Results Tell Our Story! Use Copper Hydro on your cherry trees for better results. Also recommended for control of APPLE SCAB. Safe, easy to use, will not deteriorate. Combines with arsenicals, rotenone or sulphurs. Write for circular and prices.



West Virginia Cherry Orchard

CHIPMAN CHEMICAL CO., Inc. BOUND BROOK, New Jersey



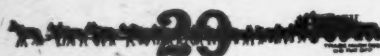
Spray Apples and Cherries with

26% COPPER FUNGICIDE

An insoluble copper fungicide. A most effective spray for apples and cherries. Absolutely safe. Controls diseases without injury.



TENNESSEE CORPORATION ATLANTA, GA. LOCKLAND, OHIO



BORAX—BORIC ACID

Borax or Boric Acid—for the effective control of BORON DEFICIENCY DISORDERS in apple orchards.

WRITE US FOR PRICES AND INFORMATION

PACIFIC COAST BORAX CO.

51 Madison Ave., New York City

EYE GLASSES BY MAIL

GLASSES
as low as
\$1.95 PAIR

16 DAYS TRIAL

Choice of the LATEST STYLES—remarkably LOW PRICES. SATISFACTION GUARANTEED or your money back. If you are not satisfied—they will not cost you a cent.

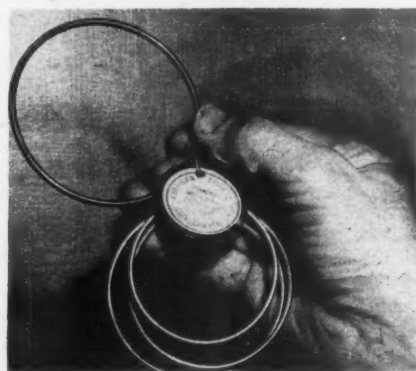
SEND NO MONEY Write for FREE catalog today showing all of our many styles and LOW PRICES!

ADVANCE SPECTACLE CO.

537 S. Dearborn St., Dept. A.F.G.-5 Chicago, Ill.

**BROKEN GLASSES
REPAIRED
AT LOW COST!**

SIZING RINGS FOR GRADING



Comply with the grading regulations by sizing your fruit. Use AMERICAN FRUIT GROWER sizing rings for accurate measurements. Made of metal with smooth edges, lasts a lifetime. While the present supply lasts, we are closing these out at only 15c per set. Send your order on coupon below.

**15c
PER
SET**

ENCLOSED IS 15c ☐ COIN ☐ MONEY ORDER ☐ STAMPS

NAME _____

ADDRESS _____

CITY & STATE _____

AMERICAN
FRUIT GROWER
1370 Ontario St.,
Cleveland, Ohio

ALSO ATTACHED IS \$1.00 FOR RENEWAL OF MY SUBSCRIPTION FOR 3 YEARS.

MULCHING

(Continued from page 11)

The mulch should cover an area extending from within a foot of the trunk to well out beyond the spread of the branches, and should be heavy enough to smother grass and weeds and resist decay for at least one growing season.

Most growers are familiar with the outstanding results obtained from the use of a manure mulch on devitalized trees. Because of difficulty in obtaining manure in sufficient quantities to treat large acreages, its use has only limited application. Consequently the use of available straw or grasses presents a more practical solution.

A block of Grimes and Delicious trees in an experimental orchard near Lafayette, Indiana, that were 15 years old in 1937 and had been cultivated during the entire period, were so lacking in vigor that for the past several years they had produced no fruit and had made very little vegetable growth. Even though they were planted on a relatively level location there had been a considerable loss of the surface soil during the 15-year period.

In the spring of 1937 this area was seeded to bluegrass and given a broadcast application of sulphate of ammonia at the rate of 400 pounds per acre. In March, 1938, part of the trees of each variety were mulched with two bales of straw per tree. An additional bale per tree was added in the spring of 1939. The nitrogen applications were continued each spring.

As the result of a late spring freeze in 1938 no fruit was produced in the orchard that year but there was a noticeable increase in vegetative growth of the trees in sod and under mulch. In the season of 1939 the trees not only made good growth but produced well. While the trees in sod alone bore more apples than trees still under cultivation, the mulched trees yielded more and larger fruit than the trees in sod without the straw mulch.

Only those trees which were mulched gave good yields in 1940. Yields from the entire orchard were irregular, and from all trees but those mulched, very light.

In 1941 the trees that were retired from cultivation in 1937 continued to show the beneficial effects of the sod and mulch treatments. Again the mulched trees showed an advantage over the trees in sod alone, and trees in both treatments were much superior to trees that were still being cultivated.

This is a concrete example of what may be accomplished by mulching. Many similar instances might be described.

An economical way to buy straw for mulching is to purchase it in the stack and arrange to have it baled. Often it may be secured at a lower cost per bale where so purchased as

all the straw in the stack can be used. The damp or moldy straw in the lower portion of the stack that is not suitable for ordinary uses is satisfactory for tree mulching and need not be discarded.

Materials other than straw, such as Sudan grass, marsh hay, various wild grasses, and spoiled hay may be used as mulches. Sawdust sometimes is used with good results, but occasionally injury is reported from its use. In areas where the codling moth is prevalent coarse materials that harbor the pupating larvae such as corn fodder, chopped corn cobs, or shavings should be avoided.

On severely eroded soils it may be necessary to use a complete fertilizer in order to secure a good stand of grass. Application of lime will be necessary on acid soils if clovers or other legumes are to be grown. Lespedeza will grow on soils that are too acid for most legumes. Nitrogen, of course, should be applied whenever its need is indicated by poor growth and pale green color of tree leaves, and by weak, unhealthy growth of grass.

When a mulch of any material but manure is first applied, a nitrogen carrying fertilizer such as nitrate of soda or sulphate of ammonia, should be used. Straw and similar mulches are composed largely of cellulose. When cellulose is added to the soil in large quantities the bacteriological activities are disturbed which results in a temporary shortage or tie-up of the nitrifying bacteria and the resulting nitrates available for the trees. Usually, after about the third year when the mulch is well established, a nitrogen fertilizer no longer is necessary on mulched trees. The decaying mulch returns sufficient nitrogen to the soil for the use of the trees.

Mulching apple trees not only provides one of the most effective means of promoting and maintaining high vigor and maximum production but is moderate in cost and conserving of labor in comparison with cultivation. After the mulch is established it is maintained by the addition of one bale of straw per tree, or its equivalent in other materials, every other year.

Much of the fruit that drops or is blown from the tree escapes serious damage when it falls on a mulch. The increase in value of dropped fruit alone often is more than sufficient to cover the cost of the mulch.

INVENTS GIRDLING DEVICE

OHIO grower James Dutton uses his own homemade girdling knife to ring the branches of trees which are tardy coming into bearing. It consists of two razor blades separated about one-fourth of an inch by a wooden handle six inches long.

Mr. Dutton writes: "I think it inadvisable to girdle the trunk as it is likely to dwarf the tree. The girdle should be protected from insects and infection by use of grafting wax or tape. For use on bigger parts of the tree or for patch budding the width of the girdle can be varied by changing the thickness of the handle."

EVERYBODY LIKES EXTRAS!



* SULFORON

Does
EXTRA DUTY

WITH your fruit crops vital to the nation for wartime needs, protection from fungous damage is especially important.

For that special task, Du Pont *Sulforon*, micro-fine wettable sulfur, volunteers for *extra duty*.

Sulforon is a micro-fine elemental sulfur with extremely fine particle size — prepared for *extra duty* in covering foliage and fruit; thorough penetration and greater adhesion.

97% ACTIVE INGREDIENTS

Sulforon is a more active form of sulfur — 97 per cent active ingredients performing *extra duty* in control of fungous diseases such as apple scab, peach scab, sooty blotch, fly speck fungus, brown rot of stone fruits and powdery mildew.

Made freely wettable by a special wetting agent, *Sulforon* disperses uniformly and remains in suspension — doing *extra duty* by saving time in preparation and application.



You can control Peach Scab and Brown Rot without injury to fruit when you use "Sulforon" (6 lb. to 100 gal. water). Also recommended for Apple Scab.

Safe, Compatible, Spray or Dust

Sulforon is a mild fungicide and does not adversely affect the normal activity of the foliage, does not react with arsenicals and is compatible with most other commonly used insecticides such as cryolite, free base nicotine, nicotine sulfate, fixed nicotine, derris, cube and pyrethrum sprays or dusts.

E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware.

Give your crops extra protection with *Sulforon*. See your dealer at once.

*Reg. U. S. Pat. Off.

DU PONT

SUMMER SPRAY OIL

*The oil is
important!*

For best all-round results, the oil in your summer sprays must have certain very important characteristics. For example, it mustn't be so heavy as to endanger the trees and impair fruit finish and color—nor so light as to lack adequate insect-killing power.

Standard Oil's research facilities and precise control during refining assure you the base oil in Standard Summer Spray Oils is *right*... and that the emulsifiers and other ingredients are carefully selected to give the spray maximum effectiveness along with maximum safety. Rely on either or both of the products below—according to your particular spraying requirements.

SUPERLA Summer Spray Oil

Ideal for use with arsenate of lead in either wash or non-wash spraying programs—and with fixed nicotine and nicotine sulphate if you wish to mix your own oil-nicotine spray.

NICO-SOL Summer Spray Oil

The efficient, economical, ready-mixed oil-nicotine spray. Especially valuable in a non-wash codling moth control program, where a complete lead schedule would involve danger of exceeding the allowable tolerance.

**STANDARD OIL
COMPANY (INDIANA)**
910 S. MICHIGAN AVE.
CHICAGO, ILL.

HIGH-PRESSURE SPRAY HOSE
ANY PRESSURE TO 1000 LBS. — ANY LENGTH
Sizes— $\frac{3}{8}$ " - $\frac{7}{16}$ " - $\frac{1}{2}$ " - $\frac{3}{4}$ "
also
 $\frac{1}{2}$ " - $\frac{7}{16}$ " - $\frac{1}{4}$ " and $\frac{3}{8}$ " High Pressure Couplings
PROMPT SERVICE — LOW PRICES
Write for Free Sample
BROADWAY RUBBER MFG. CO.
Manufacturers and Engineers since 1901
529 E. Broadway Louisville, Kentucky

ORCHARD DEFENSE

(Continued from page 7)

variably the orchards sprayed with the largest number of applications, the most material per spray, at the most cost for spray materials, were the ones that made the most money. Neither did it show the opposite—that where the cost of the spray program was least, the profit was greatest. Perhaps a much larger number of orchards would have to be surveyed and a more complete record made of many conditions and factors in order to establish definite trends.

However, the investigation did yield some interesting indications. In general, those orchards whose owners followed a policy of the most conscientious practice of accurate timing of sprays, close spacing of first-brood covers, adequate coverage, alert watchfulness of insect development, and use of materials possessing maximum effectiveness, were the ones that completed the season with the highest percentage of quality fruit and the best profits, regardless of how much the initial cost had to be. In some cases, the spray cost did not have to be high. In other cases, conditions were such that it was high. But the fact that it was high did not necessarily affect the final net returns adversely. The important thing was the amount of quality fruit the grower had to sell.

A few representative and significant examples will illustrate the points mentioned above.

Grower A used an "expensive" spray schedule—8 cover sprays. First-brood sprays were spaced 5 days apart. The last cover was applied on September 3rd. He used nicotine-oil in 6 of the 8 covers. He sprayed with great thoroughness and care. This grower used a practice that many would consider ruinously expensive. He had the highest spray cost for apples produced of any orchard surveyed—15c per bushel. He spent this money because, under his conditions, and using the materials he did, he had to in order to produce good fruit. Yet he made the most profit per acre—\$155.00—and he had the highest percentage of No. 1 apples. That determined his final costs and returns.

The next best profit was made by Grower B. His spray costs were considerably less than A's—8c per bushel of total fruit—and he made \$150.00 per acre, or only \$5.00 less than A. His spray costs were lower than A's because he was equipped to wash, therefore used the less expensive but highly effective summer oil-lead sprays in two critical applications. Codling moth conditions were not so difficult as A's, making it possible for B to produce plenty of good fruit with only 5 cover sprays.

The next best orchard from a profit standpoint, with a figure of \$115.00

Guard Against DESTRUCTIVE INSECTS

With Corona Products

1 PROTECT YOUR APPLE CROP from the curculio, codling moth, bud moth and other pests—with Corona Dry Arsenate of Lead. Here's a double-action poison that kills insects quickly—completely.

2 PROTECT YOUR POTATO CROP by spraying with Corona Calcium Arsenate and Corona Bordeaux Mixture. Both can be used as they come in the package—as a wet spray or a dust.

3 FOR TREE WOUNDS use Corona Tree Wound Dressing. This product retains its healing properties longer—heals quicker—and will not injure living tissue.

OTHER CORONA PRODUCTS

CORONA MERKO	for treating seed corn
OATS DUST	for treating seed oats
COPPERCANE	for treating wheat seed
50% PLUS	for treating wheat seed
P. D. 7 DUST	for treating seed potatoes

Corona
CHEMICALS
DIVISION OF
PITTSBURGH
PLATE GLASS COMPANY
MILWAUKEE, WISCONSIN



**WHY WASTE TIME
WATERING STOCK—PUT IN
RUNNING WATER**

Uncle Sam needs more meat, more eggs, more milk. Running water saves your time for other work—puts meat on beef and hogs faster—increases milk up to 20%—increases eggs as much as 35%. Put in a—

BURKS WATER SYSTEM

Super Turbine System lifts water 28 feet. Educator Systems lift water 210 feet. Largest capacities—fully automatic—low operating cost—dependable—Only one moving part. The best investment you can make. Send for prices and FREE descriptive folder at once.



DECATUR PUMP CO., 10 Elk St., DECATUR, ILL.

AMERICAN FRUIT GROWER is always ready to help subscribers. You can help by mentioning **AMERICAN FRUIT GROWER** when writing advertisers.

per acre, was Grower C's, who also had a high cost spray schedule of 11 covers, with 7 in the first-brood, 8 days apart. C's cost was 14c per bushel. While he reduced his cost per spray materially below A's because he used oil lead instead of oil-nicotine (being prepared to wash), he had to put on more sprays because of having a more severe codling moth problem. In spite of the necessity of using this heavy schedule, C produced enough high grade fruit to show a very good profit.

Grower D made a nice profit of \$100.00 per acre on a low-cost spray schedule, a lead program of 6 cover sprays, ending on July 16th. Three of the sprays contained oil. By close supervision and timing, and by very thorough spraying, enough marketable fruit was produced at the low cost of 5.3c per bushel, to show a fine profit, although the percentage of No. 1 apples was a little below that produced by B and C, and considerably below that produced by A.

Grower E showed a favorable spray cost of only 7c per bushel, not due to a low number of total sprays nor to the use of less costly ingredients than the other growers cited above. He used a 9 cover lead schedule, 3 covers containing summer oil. His first-brood spacing was not greatly off, although it was farther apart than most of the others. He reduced his costs chiefly by use of insufficient material to produce thorough coverage. The orchard is old and in a very bad codling moth section. First-brood spacing and coverage were inadequate to provide effective protection under the conditions and so, in spite of his relatively low cost program, he had less than 30% No. 1 grade fruit at harvest, and his orchard fell in the low profit-producing group, while others, as A and C, with spray costs twice as great, simply sprayed as they had to spray to produce salable apples, and thereby raised their orchards into the higher profits class.

The examples given show that the initial cost of the spray program is not necessarily the chief determining factor in production of profits. Good results were produced by both low and high cost programs, depending upon local insect infestation conditions, age and size of trees, location of orchard, size of crop, and other circumstances.

They do show one thing very plainly—that the most important single factor is production of a high percentage of quality fruit, free from excessive insect and disease injury. Some growers had to use a costly program to produce such fruit—others a less costly program. But if they used the program that had to be used in the way it had to be applied to get that quality fruit, they made money in spite of the required cost.

In the business of growing fruit for profit, the truth that seems to be

(Continued on page 18)



SERVICE

Years of intensified research have allowed great gains in Scientific Pest Control but have served to complicate rather than simplify Pest Control methods. Pest Control is no longer a job for the layman but usually requires the services of a specialist for best results.

"ORTHO" fieldmen are trained to give this service. They thoroughly know the products they sell, of course. They also know the orchard and vegetable pests for which these products are designed. They are familiar with chemical compatibilities, spray timing, and the host of other control complexities that confront the average grower. They will serve you to the best of their ability.

CALIFORNIA SPRAY-CHEMICAL CORPORATION

ELIZABETH, N. J.

A Proven KILLER OF PEACH TREE BORER!

Para-dichlorobenzene has long been recommended by the U. S. Dept. of Agriculture and leading fruit growers as a *proven* killer of the peach tree borer. It destroys the borer's larvae without harm to the tree... is easy to apply... requires no special equipment... no mixing! Write immediately for complete information on

SOLVAY
PARA-DICHLOROBENZENE
SOLVAY SALES CORPORATION
Alkalies and Chemical Products Manufactured by
The Solvay Process Company
40 RECTOR ST. NEW YORK, N. Y.

LEWISBURG
Aristocrat 400
SPRAYING AND DUSTING LIME

**MIXES EASIER
COVERS BETTER**
99.57% pure Calcium Hydroxide. 99.5% guaranteed to pass through 400 mesh screen. Stays in suspension longer. Covers more thoroughly. Write for prices.
MARBLE CLIFF QUARRIES CO.
Columbus, O.

C-O-C-S Fungicide

(Copper Oxychloride Sulphate)

The active ingredient in C-O-C-S Sprays and Dusts is a complex, relatively insoluble and neutral copper compound. It combines the fungicidal efficiency of the Basic Copper Chlorides with the safety of Basic Sulphates. Since it is practically neutral in reaction, it may be safely combined with Rotenone, Pyrethrum, Lead Arsenate and other insecticides. It is a blue powder having an extremely fine particle size. It gives excellent coverage, adheres to the plants and, because of this, lower concentrations may be used thus reducing the cost of protective applications.

Write for literature.

Manufacturers

THE HARSHAW CHEMICAL CO.
Cleveland, Ohio

Distributors

THE NIAGARA SPRAYER AND CHEMICAL CO.
Middleport, N.Y.

FOR BETTER CONTROL
USE

PENETROL

A STICKER and SPREADER for—The Arsenates, The Sulphurs, Bordeaux Mixture and Ground Derris.

AN ACTIVATOR and WETTER for—Nicotine Sulphate. We can also supply NICOTROL, a complete Nicotine Spray carrying its own spreader.

Write for informative literature

KAY-FRIES CHEMICALS, Inc.

Dept. C,

189 Madison Ave.,

New York City

PAGE 17



PALCO
INSULATION
WOOL

KEEPS
HEAT **COLD**
FROM
ECONOMICALLY

Send for **FREE** Cold Storage Manual and folder on "Growers Cold Storage."

THE PACIFIC LUMBER COMPANY
San Francisco - Chicago - New York - Los Angeles



FROM DURABLE REDWOOD BARK

SPRAYERS! Here is the Only Way to Maintain CLEAR VISION...

E-Z "C"

Face Protector with Renewable Tear-Off Visor!

★ Don't let lime, lead and sulphur spray interfere with better crop coverage. Just pull out and tear off a strip of transparent ribbon for continuous CLEAR VISION. Order from your seedsman or hardware dealer—or write direct. \$3 complete.

CHICAGO EYE SHIELD CO. 2397 Warren Boulevard Chicago, Illinois



BOOST WARTIME FOOD PRODUCTION

with Motorized "Soldiers of the Soil"

BOLENS HUSKI GARDEN TRACTORS

HUSKIS perform ALL gardening tasks easier, faster, at less cost, for row crop, in any soil.

higher profits on ANY row crop, in any soil. Repair parts always available. WRITE FOR NEW CATALOG.

★ **BOLENS PRODUCTS COMPANY** Dept. AF-4, Port Washington, Wis. ★

Boleens HUSKI—The World's Oldest and Most Complete Line of Power Gardening Equipment.

TWO GROWERS DISCUSS HAIL DAMAGE

(Continued from page 9)

through hail insurance and a disastrous year was avoided.

"The Gillan Brothers of Chambersburg, Pa., never even knew they had been struck by hail because the storm hit at night. If it hadn't been for a casual visit of a hail adjustor the damage might have gone unnoticed. For a number of years they have protected themselves with hail insurance and they claim it is a great relief to know they have insurance when terrorizing storms begin appearing over the mountain tops back of the orchard. They don't see how they could economically do without hail insurance.

"Probably one of the oddest experiences was that had by Gilbert Smith of Muir, Mich. Two weeks of hot, dry weather had just passed and he was relieved to see a shower approaching. His relief turned to dismay when hail began to streak down on his trees. The storm lasted about 20 minutes and the crop was severely injured. When asked how he felt, Smith replied that he was rather depressed at the changed appearance of trees and fruit but was profoundly thankful he had the protection of hail insurance.

"Don Carroll of Muir, Mich., said it was not a very pleasant sight or feeling to see hail six inches deep in his orchard within a space of five minutes after he had just spent 18 days spraying. Because it proved to be such a 'safety-first' investment for him, he advises every fruit grower to buy hail insurance.

"I could go on and on telling you about the experiences of growers who fortunately were protected by hail insurance, but I've got to hurry back home. That looks like a storm coming up and I want to get the thinners out of the orchard before it breaks."

Alarmed, the grower said, "You don't think it's going to hail!"

"You never can tell," I answered as I drove off, satisfied because I knew hail couldn't bother me.

ORCHARD DEFENSE

(Continued from page 17)

revealed more plainly season after season is this:

It does not pay to compromise with necessity.

The question is not: "Can I afford to use more sprays, more gallons per tree, more care, and more costly ingredients if I must do all these things to provide adequate protection," but "Can I afford not to do these things?"

OPPORTUNITY ADS

Only 15c a Word—CASH WITH ORDER. Count each initial and whole number as one word. ADDRESS: AMERICAN FRUIT GROWER, 1370 Ontario Street, Cleveland, Ohio

BABY CHICKS

3,300,000,000 DOZEN EGGS PRODUCED IN 1941. YOUR government wants 4,200,000,000 dozens in 1942—guarantees high prices until June, 1943. Do your part—Increase your laying flock with Carney chicks. Barred, Buff, White Rocks, Reds, Wyandottes, Orpingtons \$3.25-100; Pullets \$11.00; Cockerels \$7.45; Big English White Leghorns \$8.25-100; Pullets \$16.00; Cockerels \$3.25; Heavy Mixed \$6.75; Light Mixed \$7.25; Seconds \$3.95; Heavy Mixed (no sex guarantee) \$6.45. I can make immediate shipment. CARNEY HATCHERY, Box 42, Shelbyville, Indiana.

FOR IMMEDIATE DELIVERY—ENGLISH WHITE, Brown, Buff Leghorns, Anconas \$8.45-100; Pullets \$16.95; Cockerels \$3.95; Barred, White, Buff Rocks, Reds, White Wyandottes, Buff Orpingtons \$8.25-100; Pullets \$11.45; Cockerels \$7.95. Heavy Mixed \$7.25; Light Mixed \$6.95; Seconds \$3.95. Write for catalog and poul and duckling prices. DAVIS POULTRY FARM, Route 3, Ramsey, Indiana.

BEES

IMPROVED QUALITY THREEBAND ITALIANS: BEST By Test: 3 lb. package \$3.00; 4 lb. package \$3.75; 5 lb. package \$4.25; all with young queens; QUEENS 65c. Write for prices on large orders. Full weight live delivery guaranteed. FLOWERS BEE COMPANY, Jessup, Georgia.

FOR SALE—CIDER MILL

FOR SALE: FARQUHAR AND MT. GILEAD CIDER Presses, all sizes, new and rebuilt. Supplies. W. G. RUNKLES MACHINERY COMPANY, 185 Oakland St., Trenton, N. J.

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BEAUTIFUL "EVERWEAR" HOSIERY—35c. 3 PAIRS \$1.00. 2 Full-fashioned \$1.35. "DIREX" AF346W. Broad, Savannah, Georgia.

MISCELLANEOUS

STEER HORNS FOR SALE. SEVEN FOOT SPREAD, polished and mounted. Free Photo. LEE BERTILLION, Mineola, Texas.

MONEYMAKING OPPORTUNITIES

MAKE MONEY EASILY. PLEASANTLY WITH ROAD-side stand. I show how. Write A. FAME, Lathrop, California.

NURSERY STOCK

DELICIOUS, IMPROVED BLUEBERRIES, GOVERNment Hybrids, large as grapes. Two-year plants 2 for \$1.00, 5 for \$2.00; bearing three-year, \$1.00, 3 for \$2.00. All prepaid. GEO. C. MORSE, Williamson, New York.

ORCHARD FOR SALE

FORTY MILES EAST OF CLEVELAND, EIGHTY-ONE acres. Over seven thousand Stark's Starking, Red, Golden Delicious apple trees, thirteen to sixteen years old. Peach and cherry trees. Trucks, two tractors, sprayers, packing house and grader. Large farm house with modern conveniences. Tenant house and other farm buildings. No crop failures. Selling to retire. A. SCHAUER, Madison, Ohio.

ORCHARD SUPPLIES

EARLY BIRD TREE BANDS CHEMICALLY TREATED. Low in price, high in quality. Send orders early. EDWIN H. HOUSE, Saugatuck, Michigan.
CHEMICALLY TREATED APPLE TREE BANDS. M. A. KOELLEL, Barry, Illinois.

PATENTS

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PLANTS FOR SALE

QUALITY, YIELDGROWN PLANTS. MOSSPACKED. Per 1000 collect, cabbage and collard \$1.25. Tomatoes, \$1.50. Pepper, Eggplant \$2.50. COLONIAL PLANT FARM, Rebecca, Georgia.

MILLIONS CERTIFIED IMPROVED RED, PINK Portorican potatoes, 1000 \$1.50. Tomatoes, Sweet and Hot peppers \$1.25. Cabbage 75c. DANIEL'S, Tyty, Georgia.

GET EARLIER LARGER YIELDS FROM YOUR Victory Gardens. Plant our fieldgrown vegetable plants. Wakefield, Goldenacre, Copenhagen, Marionmarket cabbage \$1.00 thousand. Yellow and Wax Bermuda onions \$1.50 thousand. Marglobe, Rutgers, Pritchard, Stokesdale, Baltimore tomatoes. Portorico, Nancyhall sweet potatoes \$2.00 thousand. Rubyking, California wonder, Hungarian Pepper, Blackbeauty and Highbush egg plants \$2.25 thousand shipped C.O.D. mail or express collect. OMEGA PLANT FARMS, Omega, Georgia.

WANTED

WANTED: ORIGINAL SONG POEMS. FIVE STAR MUSIC MASTERS, 716 Beacon Bldg., Boston, Massachusetts.

Small-Fruit Culture

By James S. Shoemaker

Complete discussions of all phases of production and marketing of grapes, strawberries, bramble fruits, currants, gooseberries, blueberries, and cranberries feature this text and reference book. Written in an easily understandable style, the practical grower will find this volume both interesting and useful. 52 Illustrations 434 Pages

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American Fruit Grower
1370 Ontario Street Cleveland, Ohio

STATE NEWS

WASHINGTON, D. C.—W. G. Meal has been appointed Chief of the Fruit and Vegetable Branch of the Agricultural Marketing Administration. S. R. Smith has been made Assistant



W. G. Meal

Chief. Mr. Meal formerly was in charge of the Fruit and Vegetable Division of the Agricultural Marketing Service. In his new position he will head the fruit and vegetable marketing and distribution activities formerly under the Agricultural Marketing Service and the Surplus Marketing Administration.

Mr. Meal has been associated with the United States Department of Agriculture since 1929 with the exception of two years when he served as Extension Economist in marketing with the New Jersey Agricultural Extension Service. Mr. Smith has been with the Department of Agriculture for eight years.

INDIANA—A total of 14,667 farmers and fruit growers attended the 93 county farm machinery repair schools which were recently concluded by three engineers from the Agricultural Extension Department of Purdue University. The schools, planned in cooperation with the State and county agricultural war boards, are instructing Indiana farmers and fruit growers how to repair and maintain in good working order their miscellaneous pieces of farm machinery.

IOWA—One thing in favor of good production for this State this year is that there is plenty of soil moisture. The sub-soil in many parts of the State is soaked up for the first time in many years.

To help stimulate interest in tree planting in Iowa, several members of the Iowa Nurserymen's Association have donated, for planting on the State House grounds, a total of 273 trees, consisting of Black Locust, Soft Maple, Russian Olive, Hackberry, Oak, Walnut, Poplar, American Elm, and Des Moines Hican. Iowa needs to plant many forest and shade trees to take the place of those which have matured or died from various reasons. Iowa celebrated Arbor Day on April 10.—R. S. HERRICK, Sec'y, Des Moines.

LOUISIANA—Sweet potatoes are Louisiana's greatest war food, according to G. L. Tiebout, Extension Horticulturist of Louisiana State University. He points out that sweet potatoes grow like weeds throughout the State and yet only about 70,000 out of 150,000 farms grow them. The best variety for planting, he says, is the Unit No. One Porto Rico. He urges the planting of sweet potatoes to increase food production in the State, especially during the war.

ALABAMA—Though Alabama's berry crop is a bit delayed from its normal timing due to a slightly late spring, it is expected that the berry crop in this State will equal that of last year. The State's 1942 strawberry acreage is 3,600 as compared to 4,000 acres last year.

WASHINGTON—The State Apple Advertising Commission continues a nation-wide drive to increase the consumption of apples, according to C. E. Chase, Secretary-Manager. Last month another advertising barrage was launched in many leading cities and supplies were liberal and trade reports continued to be very good.

MAY, 1942

VIRGINIA—According to Wilkie Hunt, General Manager of the National Fruit Product Company, the volume of canned apples will be reduced considerably by a shortage of tin cans. However, the output of apple sauce will be normal since it will be packed in glass containers. Though vast quantities of apple juice were canned last year, it is not likely that much will be canned this year unless it can be put in glass. No allotment for apple juice has been made in connection with tin cans.

MINNESOTA—Over 400 attended the annual Horticulture Short Course at University Farm the last week of March. Professor W. H. Alderman, Chief of the Division of Horticulture at University Farm led an interesting discussion on comparatively new cherry-like fruits, such as the Oka and Sapa cherry-plums and the Chinese Bush and Korean Cherries whose plum-like pits can be squeezed.—J. D. WINTER, Sec'y.

OHIO—Early April warm weather forced peaches into bloom and pushed apples into the pre-pink stage in the southern section. Apple blossom prospects are unusually good in spite of heavy crop last fall but January sub-zero temperatures have reduced the peach prospect in the southern counties to very light or failure for the Elbertas and similar varieties.

Hardier types are more promising and in the lakeshore counties the outlook continues good.

The blossom prospect for other fruits is good.—FRANK H. BEACH, Extension Horticulturist.

CONNECTICUT—European red mite was serious enough in most apple orchards to require a dormant or delayed dormant oil spray for control.

Fruit bud prospects for apple crops appeared good on April 15. However, winter injury to peach fruit buds is likely to cause a 20 per cent crop loss.—H. A. ROLLINS, Fruit Specialist, Storrs.

INDIANA—An average apple crop is predicted for 1942, but the peach crop will be quite low. Increased usage of dormant spray is evident in both peach and apple orchards due to the prolonged drought of 1941 which provided the most favorable condition in many years from the standpoint of the development of scale.

Although the Elberta is still the important variety of peaches, there have been heavy plantings of Hale Haven and South Haven, most growers preferring the Hale Haven.—MONROE McCOWN, Sec'y, Lafayette.

MARYLAND—Peaches were injured only in a small section of Maryland but this section is usually a heavy producer.

Sudden heavy snow in late March caused little tree breakage and solved a water shortage, both in the soil and in the spraying water supply.

The labor shortage is acute in some sections, but generally, pruning has been done in rather good shape.—A. F. VIERHELLER, Sec'y.

TENNESSEE—The Annual Strawberry Festival at Humboldt, after eight years of increasing popularity, has been called off for the "duration." The Field Contest to select the year's Champion Grower will be held as usual.

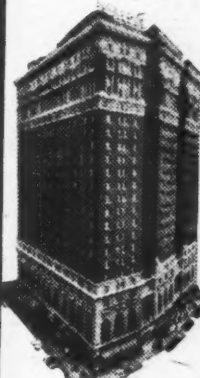
Tennessee has 22,500 acres of strawberries this year—topping the nation—and Humboldt lying in the center of the five-county belt, comprises the bulk of this acreage.—A. N. PRATT, Nashville.

AMERICAN FRUIT GROWER

COMING TO NEW YORK?

Stop at HOTEL McALPIN

Because it is located in "the center of convenience", McAlpin guests have more time to devote to business and for pleasure.



1 block from Penn Station and Empire State Bldg. B. & O. Motor Coaches stop at our door.

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HOTEL McALPIN

BROADWAY AT 34th ST., NEW YORK
Under KNOTT Management
JOHN J. WOELFLE, Manager

MARKETING

(Continued from page 10)

every courteous attempt is made to give him exactly what he wants. Apples, in particular, are sold with special care as all women do not like to cook them in the same way and all men do not like the same kind of apple to eat out-of-hand.

All grades and sizes of the various varieties are on display when in season and prices are governed by quality. Small quantities usually are sold for somewhat less than the current city retail prices and bushel orders are sold for a little more than the city wholesale quotations.

During the middle of the apple season, a large display of apples is maintained at the market. It is nothing to have 200 or more bushels of apples on display at one time. Care is taken to keep everything fresh and neat.

Mr. Fagley feels that the happy success he has had at his roadside market is due to careful grading, packing, and display. At any rate, apples and honey are a toothsome and profitable combination at his roadside market.

Dr. H. B. Tukey and associates, New York Agricultural Experiment Station, have found that granulated peat mixed with the fill, results in greatly stimulated root and top growth of newly planted trees.

PAGE 19



a sign we
like to see

Let us answer your sulphur spraying questions. Being the oldest and largest manufacturers of Agricultural Sulphurs, it is only natural that Stauffer is the headquarters for sulphur spraying and dusting information. The members of our Research Staff devote their full time working in the field and giving technical assistance to growers. Send in your problems to our nearest sales office and let us take the worry out of your sulphur spraying schedule.

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- "ELECTRIC" Super-Adhesive Dusting Sulphur
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BORAX—To correct Boron deficiency conditions in your apple orchard use F. M. SMITH Brand Borax, 99½-100% Pure.

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BY STAUFFER

Watch for
JUNE DIRECTORY
Issue

VICTORY GARDENS

CUTWORMS •

The cutworm will eat almost any kind of vegetable or plant. It comes out about dusk from its hiding place beneath the surface of the soil. It is the insect that later turns into the annoying miller which flits around the lights in the house during spring. Regular grasshopper bait or poisoned bran is effective in killing cutworms.

Cutworm bait may be prepared at home by mixing one-fourth of a pound of crude white arsenic or Paris green with five pounds or one peck of wheat bran free of shorts. Enough water should be used to moisten the poisoned bran to a crumbly consistency.

PLANTING THE GARDEN •

The planting of the garden should be fully planned before any seed is planted. Tall-growing vegetables should be grouped together on the side of the garden where they will cast the least shade on other plants. Vegetables that remain in the garden during the entire season, or most of it, also should be grouped together. Crops that are quick-growing and which are replaced by a second crop should likewise be planted together.

TIME YOUR PLANTING •

Another reason for planning a garden carefully is to make sure that there will be a variety of vegetables all season long, and not more vegetables than can be consumed one week and none the next.

FERTILIZING •

Some degree of fertilizing must be done to grow high-quality vegetables. A few rules, helpful in arriving at a useful fertilizer program, are:

- (1) Acid silt loam soils usually need additional phosphorus for vegetables.
- (2) Sandy soils usually need both nitrogen and potash applications before they will produce profitable crops of vegetables.
- (3) Muck soils and dark soils usually contain inadequate amounts of potash for successful vegetable culture.
- (4) Leafy vegetables, especially spinach, require large and constantly available supplies of nitrogen.
- (5) Root crops require especially adequate supplies of potash.
- (6) Fruitful crops, tomatoes for example, generally require a liberal amount of phosphorus.

AMERICAN FRUIT GROWER

NICHOLS "INSTANT" COPPER SULPHATE is more than the old time copper sulphate which has always been used for Bordeaux. Check these 10 points carefully and see why Nichols original Triangle Brand "Instant" Copper Sulphate really has "something to show for itself."

1. **ACCURATE CONTROL** . . . You know exactly how much copper sulphate is in your mixture.
2. **GREATER SAFETY** . . . Control of mixture means increased safety.
3. **BETTER MIXTURES** . . . Dissolves instantly and completely. Requires no agitation.
4. **ECONOMY** . . . No waste, no sediment, no undissolved crystals. **YOU USE IT ALL!**
5. **EFFICIENCY** . . . 99% pure, 100% efficient. Permits quicker use of fresh solutions.
6. **FASTER OPERATIONS** . . . Saves time, labor . . . mixes directly in the spray tank.
7. **REDUCES EQUIPMENT** . . . Eliminates extra equipment for slaking lime and stock solutions.
8. **KNOWN QUALITY** . . . Standard for 50 years, it is the oldest and best known brand. Modern manufacturing methods assure never failing high quality in every package.
9. **MODERN PACKAGES** . . . Safeguard quality. At no extra cost, you get the best in water-proof bags and steel-hooped barrels.
10. **PRODUCED IN 3 LARGE PLANTS** . . . Your dealer can always supply you because of three strategically located plants.

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TRIANGLE
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ORIGINAL "INSTANT"

ASK YOUR DEALER for Nichols Triangle Brand "Instant" Copper Sulphate today. He also carries LARGE AND SMALL CRYSTALLINE and SUPERFINE NICHOLS SULPHATE for STANDARD BORDEAUX, and MONOHYDRATED for copper lime dusts. Write for your copy of the new Bordeaux Booklet.

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BANGOR, MICHIGAN

Seven Models A GUN FOR EVERY PURPOSE
Send for FREE Catalog

"GET IN THE SCRAP" MR. FRUIT GROWER

(Continued from page 4)

"Get in the Scrap" is an appeal to every individual's sense of patriotic duty and valuable time should not be wasted. Our nation's need is urgent. Start looking for scrap on your farm or in your orchard now, and organize your own campaign if necessary.

NEW

- "BLACKOUT" CURTAINS
- PREVENTING SLOW LEAKS
- SONG FOR VICTORY
- SOYBEAN "WOOL"
- BOOKLETS

"BLACKOUT" CURTAINS •

If individuals prepare themselves now for blackout drills, or the real thing, they will not have to stumble around in the dark with discomfort and danger when all the lights have been turned out to achieve the necessary effect of total darkness.

Each household should have prepared one room where the family can live normally throughout the blackouts without violating any restrictions. For this reason Clopay Corporation has placed on the market special blackout shades made of heavy, opaque oil-coated material. They



are put up at the windows like the ordinary shade and are equipped with hold-down brackets that secure them to sills and frames to prevent flying up as well as to prevent light leakages on the sides.

The Clopay blackout shades can be used on regular rollers or they can be purchased equipped with rollers and gadgets so that the shade can be rolled up until you have occasion to use it. They are inexpensive to buy but invaluable to the safety of a community in case of a blackout.

PREVENTING SLOW LEAKS •

A slow leak in an inner tube often goes unnoticed until serious damage has been done to the fabric and until the tire may be ruined. According to Dr. S. M. Cadwell of the United States Rubber Company, many slow leaks are caused by sparks of static electricity which is generated by friction of the tires on the road surface. These static charges can be neutralized and the leaks can be prevented by a powder which is blown into the inner tube.

This powder is known as the United States Automotive Static Neutralizer. About two grams of it, injected through the valve stem of the inner tube, readily distributes itself and adheres to the walls of the inner tube, forming a conductive layer. Once properly applied, the treatment is permanently effective.

In addition to eliminating slow leaks,

caused by static, the Neutralizer will reduce static noises from car radios which are caused by friction of rotating parts such as the tires, wheels, fanbelt.

SONG FOR VICTORY •

"Plant a little garden in your own back yard" are the words in the title of a new lilting song that has been published to encourage new Victory gardeners in their efforts to increase food production for Uncle Sam during the present war. Words are by Walter Hirsch and Bert Lewis while music is by J. Walter Leopold. Jan Garber, radio star, who recently featured and introduced the song, called it a "dig for Victory."

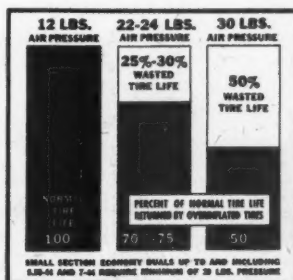
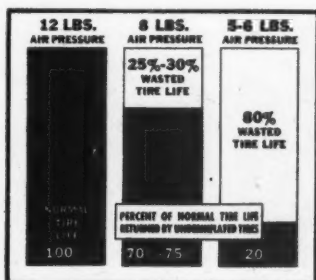
SOYBEAN "WOOL" •

The soybean rapidly is gaining more prominence and popularity as a really worthwhile vegetable. Now a new synthetic wool, ingeniously spun from substances containing soybean protein as its principal ingredient, has just been announced by the Ford Motor Company. The new fiber can be produced at less than half the cost of sheep wool and can be used to supplement wool in many ways.

The charts below show the wasteful results of either under- or overinflation on a tractor tire which was built to be operated with an air pressure level of 12 pounds. Besides these charts and other illustrations, the new booklet, "How to Get Maximum Performance and Longer Wear from Your Tractor and Implement Tires," carries other practical suggestions. It is issued by Firestone Rubber Company.

TRACTORETTES TRAINING PROGRAM is a manual for fruit growers and farmers who will have to train women to work in the fields and orchards to meet the labor shortages which are occurring as a result of the war. Besides general instructions the booklet contains eight specific lessons. It is thoughtfully published by International Harvester Company.

Descriptions, prices, and pictures of all the tools which the fruit grower and gardener need are in the 1942 Victory Edi-



tion of A. M. Leonard & Sons's HAND BOOK OF NURSERY AND GARDEN TOOLS.

THE WRECKORD is the title of The Travelers Insurance Company's new booklet. It is as interesting to the motorist as its title is clever.

AMERICAN FRUIT GROWER

A WORLD-FAMOUS

Luxury Hotel



Distinguished visitors have made The Blackstone one of the World's most famous hotels. Beautiful appointments, quiet luxury, perfect service, excellent cuisine, sparkling entertainment.

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FIRST STEPS IN FRUIT GROWING

A VISUAL LESSON IN BARK BUDDING

GIVE FRUIT TREES ROOM TO GROW

THE most common mistake of planting fruit trees is crowding. Before planting, hunt up an old specimen which has stood alone for years and measure the spread of its branches. Then realize that its feeding roots extend even farther in all directions. Then you will believe that best results can only be had when each tree stands far enough from its neighbor to avoid serious competition for food, light and air. This will also make you realize why nurserymen and experienced tree planters recommend what seems to you, excessive distances.

Close planting results in interlocking branches, excessive height, difficulty in pruning, spraying and even fruit gathering.

After each fruit tree, bush or vine is planted, take off the labels which nurserymen always attach by twisting tightly around the trunk or main branches. If allowed to remain attached the copper wires will probably kill the part of the plant above their attachment before the end of the second, if not the first season.

POLLEN BOUQUETS

WHEN the tree that will not fruit is in bloom, cut a big bouquet of blossoming branches from a fruit tree of the same kind but of another variety. Put these branches in a pail or can of water hung on a branch of the tree. Bees working the trees will visit the blossoms on the pollinizing bouquet and transfer pollen to the blossoms growing on the tree.

TONIC FOR BEES

WHEN bee specialists attempted to stimulate brood rearing late in winter by feeding ordinary sugar syrup to experimental colonies, they failed. When they added pollen to the syrup, however, egg laying started within 12 hours.

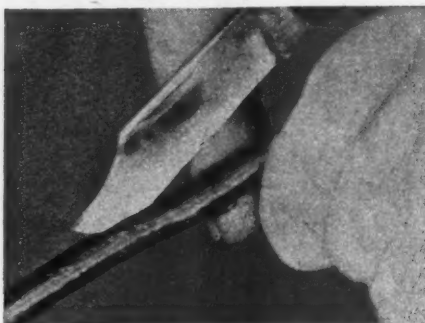
MOISTURE FOR BERRIES

BECAUSE berry plants are shallow rooted, retention of moisture is one of the most important features that can characterize soils devoted to them. If a soil is, at the start, defective in this requirement, correct it by incorporating decayed vegetable matter and by maintaining the humus content during the growth of the berry patch by annual applications of strong manure or mulch. One other method is to sow cover crops after the berries have been harvested.

TOP-WORKING

THE amateur fruit grower as well as the commercial orchardist often finds it necessary to change over the top of an undesirable variety or a worthless seedling to some preferred variety. By employing the art of grafting it is possible to do this. This practice, called top-working, includes budding, whip grafting, and cleft grafting.

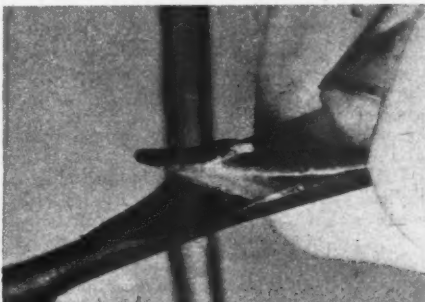
Budding can be accomplished any time when the bark on the young growth will slip easily. The usual time is late July, August, and early September. The buds to be used are taken from the current season's growth.



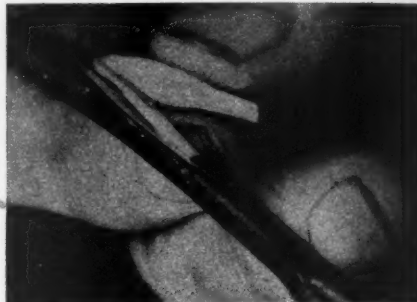
A vertical cut through the bark to the wood of the young bud stick which has been carefully selected from a bearing tree is the first step in bark budding.



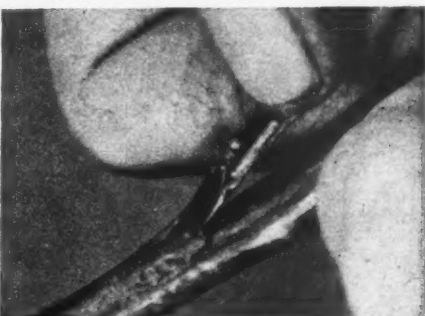
The cross cut is made through the bark at the top of vertical cut to complete T-shaped opening, and thus lifting the bark flap preparatory to inserting the bud.



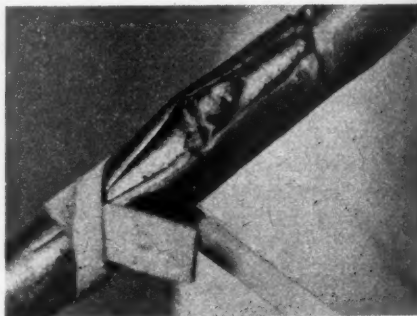
The vertical cut for a bark bud. Note that this cut is made through the bark and into the wood.



The cross cut on the bud is made just through the bark. By pinching bark where the vertical and cross cuts meet, the bark bud is freed from the scion without removing the wood.



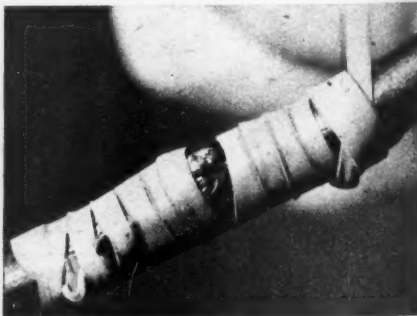
Inserting the bud. If the bud lacks rigidity, raise the bark flaps throughout the length of the vertical cut on the stock with the knife to get the bud in contact with the wood.



The bark bud in position. It is held in place and the tissues are kept from drying out by wrapping the union with rubber strips. The end of the wrap is fastened under first loop.



The entire union is wrapped with the rubber strip which is stretched several times its normal length as it is wound in a slightly spiral motion. Draw upper end of strip under last loop to avoid using a knot.



The completed wrap. The botanical bud which is to grow out into the new shoot is not covered by the rubber strip so as not to injure the delicate leaf tissues. To prevent entrance of surface water or drying out, the top opening is wrapped also.

Illustrations courtesy Purdue University Agricultural Dept.



HAIL

Ruined This Apple Crop But Hail Insurance Protected The Owner

The fact that he had sound insurance protection made this fruit grower feel much more comfortable before it happened.

And when he saw his crop on the ground and his season's work and prospects wiped out, it was wonderful to realize that he was protected.

Hail is one of your worst enemies. It knows no limitations. It may strike anywhere with devastating force. You cannot prevent it, but you *can* safeguard yourself

by insuring the crop in one of the capital stock companies named below.

Local losses cannot cripple these companies as they do individual owners, because the company risks are very widely scattered.

This kind of insurance protection is sensible, reliable and safe. The cost is so reasonable that you can ill afford to carry the risk yourself. Insure wisely—*now*.

FOR NAME OF YOUR NEAREST AGENT WRITE TO:

HAIL DEPARTMENT, 209 West Jackson, CHICAGO, ILL.

THE AETNA FIRE GROUP

THE NORTH AMERICA COMPANIES

THE SPRINGFIELD GROUP

OF FIRE INSURANCE COMPANIES

Fill in and Mail: You May Paste to a Penny Post Card.

HAIL DEPARTMENT,
209 West Jackson, Chicago, Illinois.

Please send your Free Hail Insurance information.

Name..... (Please print clearly)

Address.....

City and State.....

Which Company do you prefer?.....

A.F.G.....

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NO ACCIDENT!



Use BLACK LEAF 155..
For Protection Against Worms

Codling moth control... an all-important factor in profitable apple production. Black Leaf 155 is designed to provide *non-wash* protection against codling moth, and at the same time controls leafhopper nymphs, hatching bud-moth larvae, summer aphids and leaf-miners, on apples and pears; and leafhoppers and berry moth attacking grapes.

Black Leaf 155...

Non-caustic protection for foliage and fruit quality—Black Leaf 155 contains no materials that injure foliage, nor that require washing at harvest time.



4244

“**Black
Leaf**”
155

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